

Legal and Ethical Issues

Modern cartography often crosscuts issues of law and ethics, including:

- 1. Issues of legal liability**
- 2. Accountability in government: The Freedom of Information Act and Open Records Laws**
- 3. The use and misuse of digital data and maps**

Issues of legal liability

1. Errors in data and locations

Usually resulting from measurement and data handling mistakes. National map accuracy standards prescribe a reasonable number of errors of location

Courts are likely to consider the process of data entry and whether "reasonable care" was used in design and implementation of system and training

A) Indian Towing Co. vs United States. (Chandeleur Islands, near Biloxi, MS) The federal government was held to have negligently failed to maintain a lighthouse whose location was marked on charts and whose character was described in the official Light List.

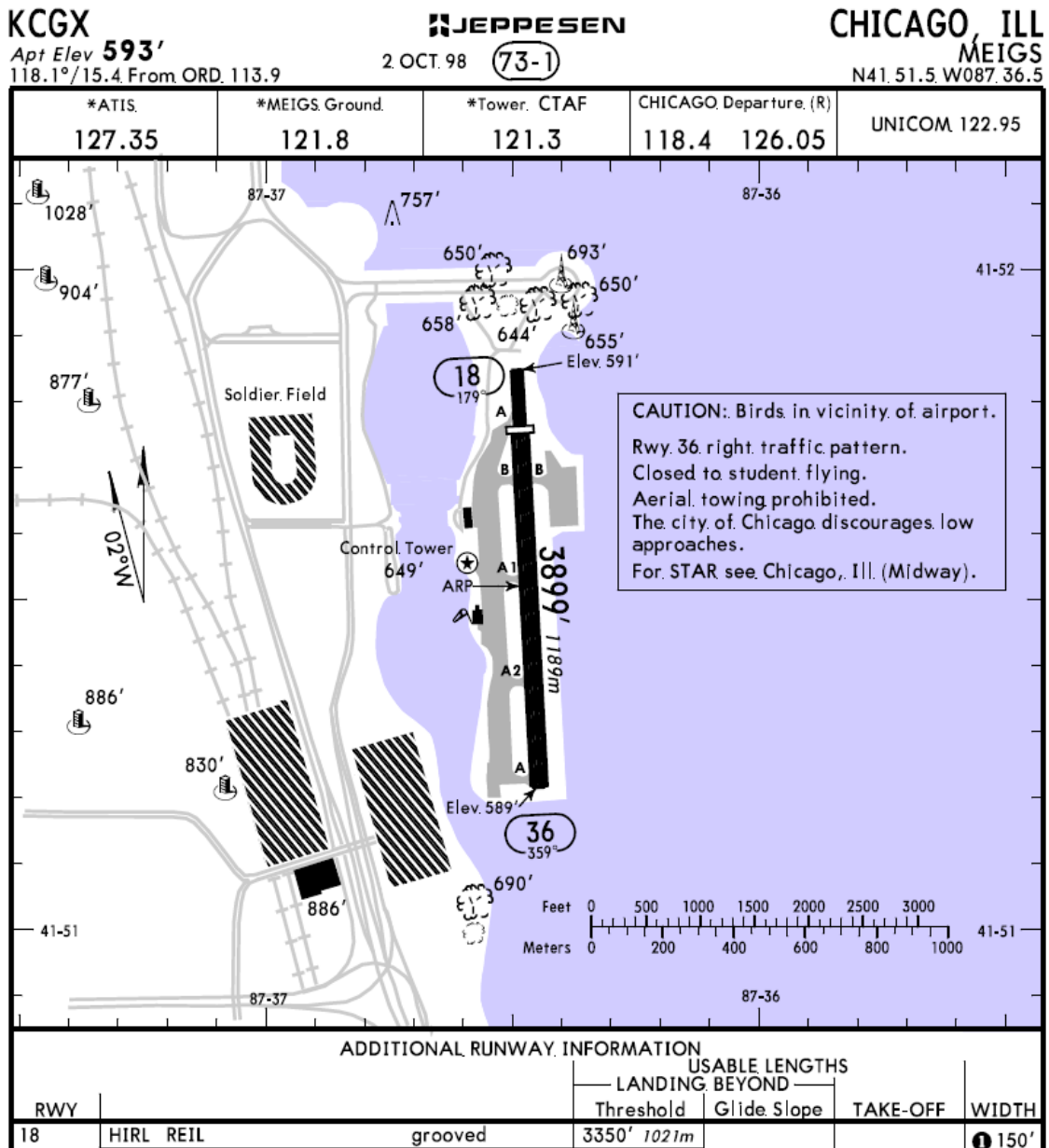
<http://supreme.justia.com/us/350/61/>



B) Reminga vs United States. (near Rhinelander, WI) The federal government was held to have inaccurately and negligently depicted the location of a broadcasting tower on an aeronautical chart, contributing to the mistakes and fatalities in an airplane accident.

<http://www.wsdot.wa.gov/aviation/Planning/Reminga.htm>

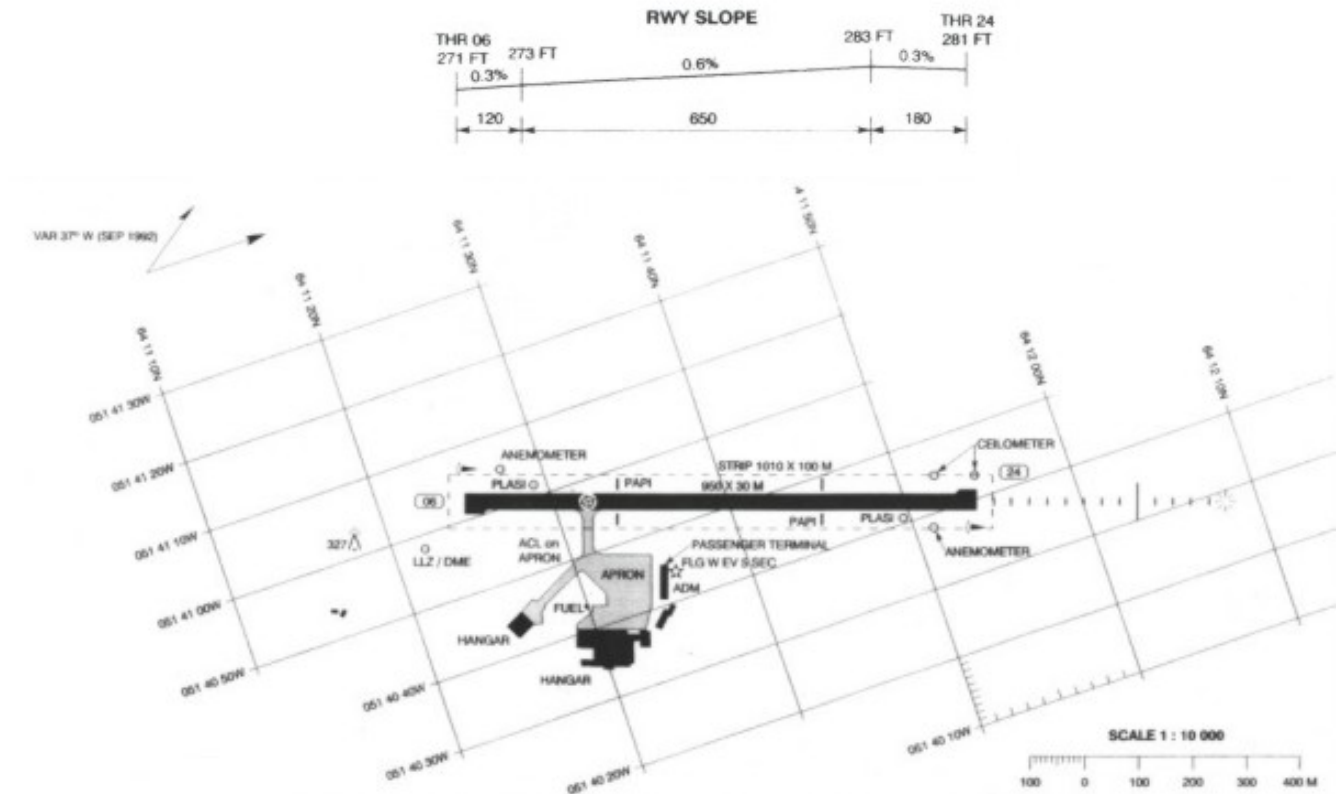
<http://historicals.ncd.noaa.gov/historicals/histmap.asp>



2) The representation of data causes confusion

A) Aetna Casualty and Surety Company vs Jeppesen and Company. (Bonanza Airlines, Las Vegas, NV) Asserted that fatal plane crash resulted from defective aeronautical chart published by Jeppesen and Company. Chart by Jeppesen depicted the instrument approach procedure to an airport, information based on tabular data from the Federal Aviation Administration. Parties did not dispute the accuracy of the data on the chart but rather the graphic depiction of it. The chart showed two views of the approach, one from above, one from the side. The two views appeared to have same scale on chart, actually the scale differed by a factor of 5. Court found the plan crew was misled by representation.

"The plan view correctly shows the minimum altitude at a distance of 15 miles from the Las Vegas Airport as 6,000 feet. The profile view does not extend beyond three miles from the airport. Both plan and profile views correctly show the minimum altitude at a distance of three miles from the airport as 3,100 feet. The "defect" in the chart consists of the fact that the graphic depiction of the profile, which covers a distance of three miles from the airport, appears to be drawn to the same scale as the graphic depiction of the plan, which covers a distance of 15 miles. In fact, although the views are the same size, the scale of the plan is five times that of the profile."

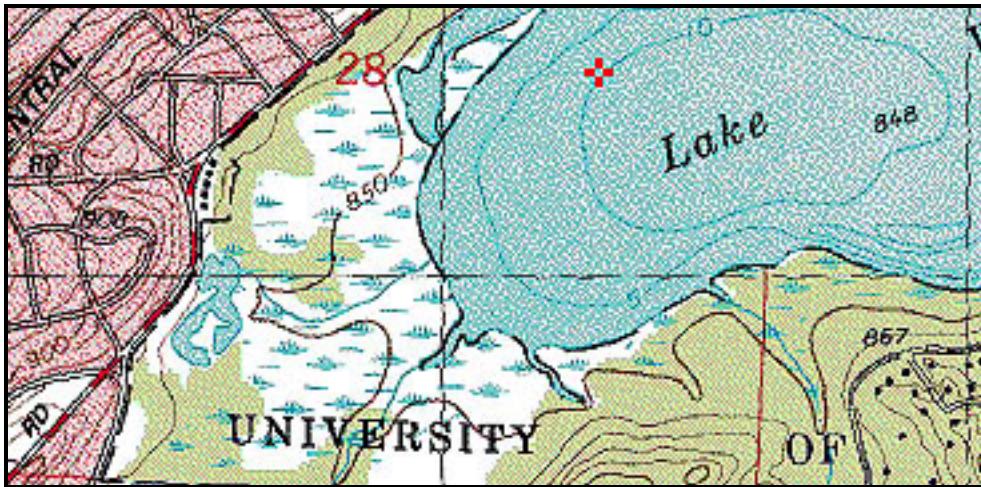


3) Unintended and inappropriate uses

User lacks expertise in interpreting map, and access to map's designers and compilers

A) Zinn vs State (Wisconsin). (Just compensation issue) State owns all land below the Ordinary High Water Mark (OHWM) of a lake. Evidence of botanists and surveyors at a regulatory hearing established 990 feet as the OHWM for a certain lake. The report of the hearing included a 1:24,000 USGS quadrangle showing the OHWM, and thus the extend of the state's land, defined by the 990 foot contour. An adjacent landowner sued the state for harm resulting from temporarily claiming part of her land, temporary in that the agency subsequently recinded the report. The state was held liable. The 990 foot contour had been drawn for purpose other than the definition of property rights, but its use to depict the OHWM also implied a specific boundary of the property in question.

<http://www.legis.state.wi.us/lrb/pubs/consthi/05consthiv1.htm>



Inappropriate uses of data are likely to increase with GIS technology is used more widely by the general public and as digital data (but perhaps inappropriate or the wrong data) becomes easily accessible through network technologies.

It is very hard to safeguard against this problem.

Accountability in government: The Freedom of Information Act and Open Records Laws

1) FOIA was passed in 1966 with the intention of providing citizens with reasonable access to publicly held records, with exemptions pertaining to national security, privacy, and so forth. The act makes no mention of computer records.

2) Open Records Laws define: what are records, those records not open to general scrutiny; and the conditions under which copies can be made available

3) Many ways around these laws, particularly at the federal level with security classifications

4) Computer databases raise pressing questions about free access to records

a) How will the open records be made available: digital, paper, or combination

b) How can this be checked if users can't use software?

c) What about the question of correcting errors, expunction, particularly with respect to backup files and archival tapes

d) Can computer-based systems be used to thwart access to information?

e) Electronic information technologies are blurring boundary between record and non-record materials

f) Computers make the manipulation of the public record very easy in some cases

g) Computers are facilitating faster and more complex searches that can assemble information from diverse sources that would be difficult to assemble by other means

New Ethical Issues

Increasingly, the compilation of digital datasets is causing conflict between the use and misuse of information. In effect, the use of digital datasets has dramatically reduced the cost of gathering, collating, and cross-referencing information in ways that used to be prohibitively expensive.

1. Benefits

- **Government accountability may improve, partly by thwarting cover-ups of poor decisions, misuse of funds, etc.**
- **Government efficiency may improve**
- **New business and marketing opportunities**
- **Increased public safety and security?**

2. Costs

- **Privacy may be compromised through the compilation of information "mosaics"**
- **Data is very hard to protect as society moves toward ubiquitous computing**
- **Some information is particularly sensitive such as the habitats of endangered species, the location of archeological and cultural artifacts, patients suffering from chronic diseases**

- **Creates division between those who "have" and those who "have not" access to information technologies**

Examples of problems:

Loss of data in the UK

http://www.timesonline.co.uk/tol/life_and_style/health/article3090664.ece

Loss of student records at TAMU Corpus Christi

<http://campustechnology.com/articles/48635/>

Examples of how public information can be "mosaiced"

<http://www.intelius.com/>

<http://find.intelius.com/>

<http://www.usa-people-search.com/>

<http://www.switchboard.com>

The Use and Misuse of Digital Data and Maps:

Privacy, Free Speech, Ethical and Decency Issues:

Maps, GIScience and Geography are at the heart of debate because they offer particularly useful methods of gathering, collating, and reporting data.

http://en-us.nielsen.com/tab/product_families/nielsen_claritas

Computer systems including those for remote sensing, GIS, and mapping have now made possible searches and queries that would once have been impossible.

Mark S. Monmonier. 2002. *Spying with Maps: Surveillance Technologies and the Future of Privacy*. Chicago: University of Chicago Press.

1. The Creation of Information Mosaics

An early book on this issue was: Jeffrey Rothfeder. 1992. *Privacy for Sale: How Computerization Has Made Everyone's Private Life an Open Secret*. New York: Simon and Schuster. Raises issues about privacy and the misuse of information mosaics.

- One of the best ways to create information mosaics is geographically, it is a convenient way to collate information
- Misuse of information
 - Stalking
 - Insurance companies and "propensity" profiles
 - Warrantless searches and "probable cause"
 - By reporters (the Clarence Thomas case)
 - Identity theft
- What are the costs and benefits of greater access
- Can privacy be guaranteed in certain areas?

2. Surveillance and Privacy

A. In the Workplace

- **Monitoring worker productivity, movements, and activities**
- **Free speech has definite limitations in the workplace**

B. In Public Places

- **Monitoring traffic and crowds**
- **Surveillance of potential terrorists**
- **Use of AI to make identifications**

C. Of Criminal Behavior

- **Gambling**
- **"Scams," such as pyramid schemes**
- **Enticement of minors**

D. Spillover into the International Arena

- **Space-based sensors and surveillance**
- **Cultural differences regarding appropriate and inappropriate information, behavior, etc.**
- **Issues of espionage, hacking, vandalism, etc.**

http://en.wikipedia.org/wiki/Nazi_memorabilia

Stoll, Clifford. 1989. *The cuckoo's egg: tracking a spy through the maze of computer espionage*. New York: Doubleday.